

AMENDMENTS TO THE CLAIMS

Claims 1-27 (Cancelled)

Claim 28 (Currently Amended): An isolated DNA molecule which comprises an expression system for the production of a calcium ion channel α_1 subunit protein which expression system comprises

a nucleotide sequence encoding a functional T-type, low voltage activated calcium channel α_1 subunit or the complement to said encoding nucleotide sequence, wherein said encoding nucleotide sequence comprises

(a) a nucleotide sequence encoding the amino acid sequence encoded by SEQ. ID.

NO: 18; or

(b) ~~the complement of a nucleotide sequence that hybridizes under conditions of medium hybridization stringency to the nucleotide sequence of (a).~~

Claims 29-34 (Cancelled)

Claim 35 (New) Recombinant host cells which are modified to contain the DNA molecule of claim 28.

Claim 36 (New): A method for producing a functional T-type calcium ion channel α_1 subunit protein which method comprises culturing the cells of claim 35 under conditions wherein said expression system produces said protein.

Claim 37 (New): A method for preparing cells which produce a functional T-type calcium ion channel α_1 subunit protein which method comprises introducing into said cells the DNA molecule of claim 28.

Claim 38 (New): An isolated DNA molecule which comprises an expression system for production of a calcium ion channel α_1 subunit protein fragment, which expression system comprises a nucleotide sequence encoding a T-type low voltage activated calcium channel α_1 subunit fragment or the complement to said encoding nucleotide sequence, wherein said encoding nucleotide sequence consists of the nucleotide sequence encoding the amino acid sequence encoded by SEQ. ID. NO: 18.

Claim 39 (New): Recombinant host cells which are modified to contain the DNA molecule of claim 38.

Claim 40 (New): A method for producing a functional T-type calcium ion channel α_1 subunit protein which method comprises culturing the cells of claim 39 under conditions wherein said expression system produces said protein.

Claim 41 (New): A method for preparing cells which produce a functional T-type calcium ion channel α_1 subunit protein which method comprises introducing into said cells the DNA molecule of claim 38.